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EXAMINER
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BACHNER, REBECCA M

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3623

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/420,912

Applicant(s)

FORD, JON ALLEN

Examiner

Rebecca M Bachner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Detailed Action***

Claims 1-26 are still pending and claims 27-35 have been added.

***Applicant's Amendments***

1. The applicant's amendments to the abstract are sufficient to overcome the objection set forth in the previous Office Action. Therefore the objection is withdrawn.
2. The applicant's amendments to claims 25 and 26 are insufficient to overcome the objection set for in the previous Office Action. Therefore the objection is maintained because it is still not clear whether claims 25, 26 and 27 are multiple dependent claims or independent claims. The examiner cannot comment on other patent's validity and therefore the argument is not found persuasive. As currently written, claims 25, 26, and 27 do not fall into one of the three categories of claims as they are not independent, multiply dependent, or dependent claims.

The applicant's amendments to claims 25, 26 and 27, are insufficient to overcome the 35 U.S.C. 112, rejection set for in the previous Office Action. Therefore the rejection is maintained because it is still not clear whether claims 25 and 26 are multiple dependent claims or independent claims. Claims 25-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 25 and 26 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not support every possible permutation of the claims. The

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specification as originally filed does not disclose a separate apparatus that performs the methods of any combination of claims 1-24.

Claims 25-27 are also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claims 25 and 27, recite that the invention is an apparatus. However, there are still no components recited that constitutes what this apparatus is. The claim as currently recited still merely sets forth what the apparatus does. An apparatus or computer readable medium cannot merely be defined as what it does, but must also be defined by what it is.

3. Applicants arguments were found persuasive and the 35 USC § 102 rejection has been withdrawn. However, a new 35 USC § 103 rejection has been established.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12, 28, 29, 32, and 33, rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al. in view of Haq et al.

As per claim 1, Walker et al. disclose a method of selecting a resource for a work item, comprising:

determining available resources that possess skills needed by the work item (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs, only resources with the necessary skills will be matched with the work item); and

for each of the determined resources, determining a business value of having the resource service the work item (see column 1, lines 65-67, the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job).

Walker did not explicitly disclose for each of the determined resources, determining a value to the resource of servicing the work item and selecting a determined resource that has a best combined value of the business value and the value to the resource, to serve the work item. However, Walker did disclose a work item being assigned to a resource for the purposes of training the resource. Haq et al. on page 5, explicitly teaches the use of employees training and career development (see abstract). Haq et al. also teaches allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to create a value to the resource of servicing the work item as this would allow employees to have preferences in the jobs they work increasing their employee satisfaction which may further lead to higher productivity and profit for the company.

As per claim 2, Walker et al. disclose all the limitations of claim 1 wherein determining a business value comprises:

determining the business value weighted by a business value weight corresponding to the work item (see column 7, lines 18-24, a weight is considered when determining the value for the work item).

Walker does not explicitly disclose determining a value to the resource comprises determining the value to the resource weighted by a resource value weight corresponding to the work item and selecting comprises selecting a determined resource that has a best combined value of the weighted business value and the weighted value to the resource. However, Walker does disclose the idea of using a weight that takes into account the value of the technician's non-productive time (see column 7, lines 11-24, the cost of the resource working on the work item is weighted with a probability. The technician's non-productive time, in addition to not being a positive value for the company, can also be a negative value for the technician, or resource, as his/her time is wasted if they are waiting for a job or task to begin.) Haq et al. teaches allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). It would be obvious to one of ordinary skill in the art at the time of the invention to create a value to the resource weighted by a resource value weight corresponding to the work item as this would allow employees to have weighted preferences in the jobs they work increasing their employee satisfaction. By creating a value that comprises selecting a

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determined resource that has a best combined value of the weighted business value and the weighted value to the resource, the company may increase productivity and profit for the company.

As per claim 3, Walker et al. disclose all the limitations of the method of claim 2 wherein: determining a business value comprises determining a weighted business value as a product of

(a) the business value weight corresponding to the work item (see column 7, lines 11-24, the weight corresponds to the work item) and

(b) a sum of products of a level of each said needed skill of the resource and a weight of said needed skill of the work item (see column 7, lines 11-24, a cost will be weighted for a work item in which the resource needs a particular skill).

Walker does not explicitly teach determining a value to the resource comprises determining a weighted resource treatment value as a product of (c) a resource treatment weight corresponding to the work item and (d) a sum of products of each treatment of the resource and a weight of the treatment of the resource. Walker does disclose creating a weight corresponding to a work item (see column 7, lines 11-24). Haq et al. teaches allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). It would be obvious to one of ordinary skill in the art at the time of the invention to create weighted value for the technicians as a product of the weighted technician's preferences and a sum of products of each treatment of the resource and a weight of the treatment

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of the resource as this would allow employees to have weighted preferences in the jobs they work increasing their employee satisfaction. By creating weighted resource treatment value, the company may increase productivity and profit for the company.

As per claim 4, Walker et al. disclose all the limitations of the method of claim 3. Walker does disclose scaling business values (see column 7, lines 11-24, the weights are used to scale values). Walker does not explicitly disclose the sum of the products being scaled. Haq et al. teaches allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). The value created by Haq is scalable. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to create scale the sum of the products as this would allow one to incorporate both the business value of having the resource service the work item and the value to the resource of servicing the work item. By incorporating both values in a scaled sum, both the company's profits and the technician's preferences can be optimized.

As per claim 5, Walker et al. disclose all the limitation of the method of claim 4 wherein: selecting comprises selecting the determined resource that has a highest weighted business value (see column 2, lines 8-12, a combination of weighted business values is taught. Walker et al. uses the lowest sum combination rather than the largest sum to find the best combination).



Walker does not explicitly disclose selecting the determined resource that has a highest sum of the weighted business value and the weighted resource treatment value. However, Haq et al. teaches allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). It would be obvious to one of ordinary skill in the art to score the work items and resources, as it allows them to be matched based on an optimal pairing of high priority work items and high employee preferences.

As per claim 6, Walker et al. disclose all the limitations of the method of claim 3 wherein: the resource treatments of a resource comprise a time since the resource became available and a time that the resource has not spent serving work items (see column 1, lines 61-62, the time that the resource is available is forecasted).

As per claim 7, Walker et al. disclose all the limitations of the method of claim 6 wherein the treatments of the resource further comprise a measure of an effect that serving of the work item would have on a goal of the resource (see column 2, lines 8-12, the resource and the work item with the smallest cost combination are matched, by keeping a small cost combination, the resource can earn a higher profit from the work item).

As per claim 8, Walker et al. disclose all the limitations of the method of claim 7 wherein the measure of the effect comprises a difference between (a) a distance of an

actual allocation of worktime of the resource among skills from a goal allocation of the work time of the resource among the skills and (b) a distance of an estimated allocation of the worktime a of the resource among the skills if the resource serves the work item from the goal allocation (see figure 16, and column 7, lines 35-59, the time that the resource completes the work item is predicted and displayed on the matrix; when the resource states that the work item is completed on time, early or late, the matrix changes and the values are recalculated to create low cost matches of the highest priority work items).

As per claim 9, Walker et al. discloses a method of selecting a resource for a work item, comprising:

determining available resources that possess skills needed by the work item (see column 4, lines 8-12, the work item, or job, may require a resource to have a particular skill); and

for each of the determined resources, determining a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill (see column 7, lines 11-24, every resource, or technician, contains a skill level and is weighted according to this skill level when combined with a work item, or job).

Walker does not explicitly disclose for each of the determined resources, determining a resource treatment value comprising a sum across all resource treatments of a product of a value of the resource for the resource treatment and a

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weight of the work item for the resource treatment; and selecting a determined resource that has a best combined score of its business value and its resource treatment value, to serve the work item. However, Haq et al. teaches creating a resource treatment value by allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art to create a resource treatment value as it allows a resource, or technician, to have a value in creating an optimal pairing of high priority work items and high employee preferences.

As per claim 10, Walker et al. disclose all the limitations of the method of claim 9 wherein the resource treatments of a resource comprise a time since the resource became available, a time that the resource has spent not serving work items, and a measure of an effect that serving the work item would have on a goal of the resource (see column 1, lines 61-62, the time that the resource is available is forecasted and column 14, lines 20-24, the resource that has completed a work item and has no new tasks assigned a new task by the method shown in figure 5, the new allocation would be based on the values calculated using the particular resource and the priority of the available work items to determine the best combination).

As per claim 11, Walker et al. discloses all the limitations of the method of claim 9 wherein:

determining a business value comprises determining a scaled business value comprising the business value scaled by a first scaling factor that is common to all of the determined resources (see figure 12, and column 7, lines 11-24, the weights for probabilities are applied to all the resources having particular skills or other time involved in carrying out a work item);

Walker does not explicitly disclose determining a resource treatment value that comprises for each resource treatment, determining a scaled value of the resource comprising the value of the resource for that resource treatment scaled by a scaling factor that is common for that resource treatment to all of the determined resources and determining a scaled resource treatment value comprising a sum, scaled by a second scaling factor that is common to all of the determined resources, across all resource treatments of a product of the scaled value of the resource for the resource treatment and a weight of the work item for the resource treatment. However, Walker does disclose scaling values using probabilities (see column 6, lines 64-67 through column 7, lines 1-24). Haq et al. teaches creating a resource treatment value by allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art to create a scaled resource treatment value as it allows a resource, or technician, to have a value in creating an optimal pairing of high priority work items and high employee preferences. One would be motivated to scale the resource value as scaling a value allows it increases the accuracy of the comparison.

As Walker does not disclose a resource treatment value, Walker also does not disclose selecting a determined resource that has a best sum of its scaled business value and scaled resource treatment value to serve the work item. However, as Haq discloses creating a resource treatment value by allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). It would be obvious for one of ordinary skill in the art to create a best sum of its scaled business value and scaled resource treatment value as it optimizes both the company's profits and the technician's preferences.

As per claim 12, Walker et al. disclose all the limitations of the method of claim 11 wherein: each scaling factor comprises a fraction having in its denominator a maximum value of the value to which said scaling factor applies of any of the resources (see column 7, lines 11-24, the scaling factor is a probability, therefore, its value can only be a number between zero and one).

As per claim 28, Walker discloses an apparatus comprising a processor for selecting a resource for a work item, comprising:

Means for determining available resources that possess skills needed by the work item (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs, only resources with the necessary skills will be matched with the work item); and

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Means for determining, for each of the determined resources, a value to the resource of serving the work item (see column 1, lines 65-67, the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job).

Walker did not explicitly disclose means for each of the determined resources, a value to the resource of servicing the work item and means for selecting a determined resource that has a best combined value of the business value and the value to the resource, to serve the work item. However, Walker did disclose a work item being assigned to a resource for the purposes of training the resource. Haq et al. on page 5, explicitly teaches the use of employees training and career development (see abstract). Haq et al. also teaches allowing employees to preference their assignments (see column 9, lines 50-60). Therefore, it would be obvious to one of ordinary skill in the art to create a value to the resource of servicing the work item as this would allow employees to have preferences in the jobs they work increasing their employee satisfaction which may further lead to higher productivity and profit for the company.

As per claim 29, Walker discloses an apparatus for selecting a resource for a work item, comprising:

Means for determining available resources that possess skills needed by the work item (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the

resources, or technicians, become available they will be assigned work items, or jobs, only resources with the necessary skills will be matched with the work item); and

Means for determining, for each of the determined resources, a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill (see column 7, lines 11-24, every resource, or technician, contains a skill level and is weighted according to this skill level when combined with a work item, or job);

Walker does not explicitly disclose a means for determining, for each of the determined resources, a resource treatment value comprising a sum across all resource treatments of a product of a value of the resource for the resource treatment and a weight of the work item for the resource treatment; and a means for selecting a determined resource that has a best combined score of its business value and its resource treatment value, to serve the work item. However, Haq et al. teaches creating a resource treatment value by allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art to create a resource treatment value as it allows a resource, or technician, to have a value in creating an optimal pairing of high priority work items and high employee preferences.

As per claim 32, Walker discloses an arrangement for selecting a resource for a work item, comprising:

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An effector of determining available resources that possess skills needed by the work item (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs, only resources with the necessary skills will be matched with the work item); and

An effector of determining, for each of the determined resources, a business value to the resource of serving the work item (see column 1, lines 65-67, the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job).

Walker did not explicitly disclose an effector of determining, for each of the determined resources, an effector of determining, a value to the resource of servicing the work item; and an effector of selecting a determined resource that has a best combined value of the business value and the value to the resource, to serve the work item. However, Walker did disclose a work item being assigned to a resource for the purposes of training the resource. Haq et al. on page 5, explicitly teaches the use of employees training and career development (see abstract). Haq et al. also teaches allowing employees to preference their assignments (see column 9, lines 50-60).

Therefore, it would be obvious to one of ordinary skill in the art to create a value to the resource of servicing the work item as this would allow employees to have preferences in the jobs they work increasing their employee satisfaction which may further lead to higher productivity and profit for the company.



As per claim 33, Walker et al. disclose an arrangement for selecting a resource for a work item, comprising:

An effector of determining available resources that possess skills needed by the work item (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs, only resources with the necessary skills will be matched with the work item); and

An effector of determining, for each of the determined resources, a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill (see column 7, lines 11-24, every resource, or technician, contains a skill level and is weighted according to this skill level when combined with a work item, or job);

Walker does not explicitly disclose an effector of determining, for each of the determined resources, a resource treatment value comprising a sum across all resource treatments of a product of a value of the resource for the resource treatment and a weight of the work item for the resource treatment; and an effector of selecting a determined resource that has a best combined score of its business value and its resource treatment value, to serve the work item. However, Haq et al. teaches creating a resource treatment value by allowing employees to preference their assignments and a value is created for their preferences (see column 9, lines 50-67, through column 10, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art to create a

resource treatment value as it allows a resource, or technician, to have a value in creating an optimal pairing of high priority work items and high employee preferences.

6. Claims 13-27, 30, 31, 34, and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al.

As per claim 13, Walker et al. disclose a method of selecting a work item for a resource, comprising:

determining available work items that need skills possessed by the resource (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs; only resources with the necessary skills will be matched with the work item);

for each of the determined work items, determining a business value of having the resource service the work item (see column 1, lines 65-67, the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job);

Walker does not explicitly disclose determining a value to the work item of being serviced by the resource; and selecting a determined work item that has a best-combined value of the business value and the value to the work item to be served by the resource. However, it is common in the art that the value to the work item being

serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art to determine the value of the work item and select the best combined business and work item value to the job. One would be motivated to do this, as this method selects the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 14, Walker et al. disclose all the limitations of the method of claim 13 wherein: determining business value comprises determining the business value weighted by a business value weight corresponding to the work item (see column 7, lines 18-24, a weight is considered when determining the value for the work item).

Walker does not explicitly disclose determining a value to the work item comprises determining the value to the work item weighted by a work item value weight corresponding to the work item; and selecting comprises selecting a determined work item that has a best combined value of the weighted business value and the weighted value to the work item. Walker does disclose weighted values (see column 7, lines 35-59). It is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to weight a work

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item as weighting a value allows it to be accuracy compared with other values. It would also be obvious for one to select the best combined business and work item value as this method selects the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 15, Walker et al. disclose all the limitations of the method of claim 14 wherein: determining a business value comprises determining a weighted business value as a product of (a) the business value weight corresponding to the work item (see column 7, lines 11-24, the weight corresponds to the work item); and

(b) a sum of products of a level of each said needed skill of the resource and a weight of said needed skill of the work item (see column 7, lines 11-24, a cost will be weighted for a work item in which the resource needs a particular skill).

Walker does not explicitly teach determining a value to the work item comprises determining a weighted work item treatment value as a product of (c) a work item treatment weight corresponding to the work item; and (d) a sum of products of each treatment of the work item and a weight of the treatment of the a work item. However, Walker does teach the use of weights (see column 7, lines 11-24). It is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to weight a work item and a sum of products of each

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treatment of the work item as weighting a value allows the value to be accurately compared to other values.

As per claim 16, Walker et al. discloses all the limitations of the method of claim 15. Walker does not explicitly disclose wherein the sums of products are scaled sums, and the treatments are scaled treatments. However, Walker does disclose weights and scaling sums (see column 7, lines 11-24). It is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to select the best combined business and work item value as this method selects the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 17, Walker et al. disclose all the limitations of the method of claim 16. Walker does not explicitly disclose selecting the determined work item that has a highest sum of the weighted business value and the weighted work item treatment value. However, it is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it

would be obvious to one of ordinary skill in the art at the time of the invention to select the highest sum of the weighted business and work item values as this method selects the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 18, Walker et al. disclose all the limitations of the method of claim 15 wherein the work item treatments of a work item comprise a time that the work item has been waiting for service and an estimated time that the work item will have to wait for service (see column 3, lines 53-65, and column 4, lines 40-41, a time is determined when the work item should be performed).

As per claim 19, Walker et al. disclose all the limitations of the method of claim 18 wherein the treatments of a work item further comprise a time by which the work item has exceeded its target wait time (see column 6, lines 53-63, the cost function for each work item indicates if the target wait time or agreed upon time has been exceeded).

As per claim 20, Walker et al. discloses all the limitations of the method of claim 18 wherein the estimated wait time that the work item will have to wait for service comprises a product of (a) a ratio of a total number of work items waiting for service and an average number of work items waiting for service and (b) a sum of average wait times of individual said needed skills each weighted by a ratio of the weight of said individual skill and a sum of the weights of the needed skills. (see figure 16, and column

6, lines 53-63 and column 7, lines 11-24, and 35-59, the time is estimated for a work item and weighted, it is predicted and displayed on the matrix and assigned to a resource who has the skills needed to complete the work item, a ratio and the average wait would be easily determined from the matrix as priority is assigned to every received work item).

As per claim 21, Walker et al. discloses a method of selecting a work item for a resource, comprising: determining available work items that need skills possessed by the resource (see column 4, lines 8-12, the work item, or job, may require a resource, or technician, to have a particular skill); and

for each of the determined work items, determining a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill (see column 7, lines 11-24, every resource contains a skill level and is weighted according to this skill level when combined with a work item.

Walker does not explicitly disclose for each of the determined work items, determining a work item treatment value comprising a sum across all work item treatments of a product of the value of the work item for the work item treatment and a weight of the a work item forth a work item treatment; and selecting a determined work item that has a best combined score of its business value and work item treatment value, to be served by the resource. However, it is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would

place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to determine a work item treatment value comprising a sum across all work item treatments and select a determined work item that has a best combined score to be served by the resource, as this allows the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 22, Walker et al. disclose all the limitations of the method of claim 21 wherein: the work item treatments of a work item comprise a time that the work item has spent waiting to be serviced, an estimated time that the item will spend waiting to be serviced, and a time by which the work item has exceeded its target waiting time (see column 16, lines 56-67, through column 17, lines 1-5, the work items are divided into categories of priority, the time dependent cost function is found for every work item which calculates the waiting time).

As per claim 23, Walker et al. disclose all the claims of the method of claim 21 wherein: determining a business value comprises determining a scaled business value comprising the business value scaled by a first scaling factor that is common to all of the determined work items (see figure 12, and column 7, lines 11-24, the weights for probabilities are applied to all the work items needing a particular set of skills).

Walker does not explicitly disclose determining a scaled value of the work item comprising the value of the work item treatment scaled by a scaling factor that is common for that work item treatment to all of the determined work items; and



determining a scaled work item treatment value comprising a sum, scaled by a second scaling factor that is common for all of the determined work items, across all work item treatments of a product of the scaled value of the work item treatment and a weight of the work item for the work item treatment. However, Walker does disclose summing and scaling values (column 7, lines 11-24). It is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to determine a scaled work item treatment value as this allows the different scaled values to be accurately compared.

Walker also does not explicitly disclose selecting a determined work item that has a best sum of its scaled business value and its scaled work item treatment value, to be is served by the resource. Walker does disclose weighting or scaling values (column 7, lines 11-24). It is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to select a determined work item that has a best sum value as this allows the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 24, Walker et al. disclose all the limitations of the method of claim 23 wherein: each scaling factor comprises a fraction having in its denominator a maximum value of the a value to which said scaling factor applies of any of the work items (see column 7, lines 11-24, the scaling factor is a probability, therefore, its value can only be a number between zero and one).

As per claim 25, Walker et al. discloses an apparatus that performs the method comprising claims 1-24 (see column 5, lines 49-57, the apparatus performs the methods listed in claims 1-24).

As per claim 26, Walker et al. discloses a computer-readable medium containing instructions which, when executed in a computer, cause the computer to perform the method comprising claims 1-24 (see column 5, lines 49-57, the computer-readable medium executes the methods listed in claims 1-24).

As per claim 27, Walker and Haq et al. disclose an apparatus comprising a processor that executes instructions to effect the method of one of the claims 1-24 (see column 5, lines 49-57, the apparatus performs the methods listed in claims 1-24).

As per claim 30, Walker et al. disclose an apparatus for selecting a work item for a resource, comprising:

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Means for determining available work items that need skills possessed by the resource (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs; only resources with the necessary skills will be matched with the work item);

Means for determining, for each of the determined work items, a business value of having the resource service the work item (see column 1, lines 65-67, the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job);

Walker does not explicitly disclose a means for determining a value to the work item of being serviced by the resource; and a means for selecting a determined work item that has a best-combined value of the business value and the value to the work item to be served by the resource. However, it is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore it would be obvious to one of ordinary skill in the art to determine the value of the work item and select the best combines business and work item value to the job. One would be motivated to do this, as this allows the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 31, Walker et al. discloses an apparatus for selecting a work item for a resource comprising:

Means for determining available work items that need skills possessed by the resource (see column 4, lines 8-12, the work item, or job, may require a resource, or technician, to have a particular skill); and

Means for determining, for each of the determined work items, determining a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill (see column 7, lines 11-24, every resource contains a skill level and is weighted according to this skill level when combined with a work item.

Walker does not explicitly disclose a means for determining, for each of the determined work items, determining a work item treatment value comprising a sum across all work item treatments of a product of the value of the work item for the work item treatment and a weight of the a work item forth a work item treatment; and a means for selecting a determined work item that has a best combined score of its business value and work item treatment value, to be served by the resource. However, it is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to determine a work item treatment value comprising a sum across all work item treatments and select a determined work item that has a

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best combined score to be served by the resource as this allows the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 34, Walker et al. disclose an arrangement for selecting a resource for a work item, comprising:

An effector of determining available work items that need skills possessed by the resource (see column 1, lines 61-62, column 2, lines 8-12, and column 4, lines 8-23, there will be forecasts predicting when the resources will become available, when the resources, or technicians, become available they will be assigned work items, or jobs; only resources with the necessary skills will be matched with the work item);

An effector of determining, for each of the determined work items, a business value of having the resource service the work item (see column 1, lines 65-67, the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job).

Walker does not explicitly disclose an effector of determining a value to the work item of being serviced by the resource; and an effector of selecting a determined work item that has a best-combined value of the business value and the value to the work item to be served by the resource. However, it is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore it would be obvious to one of ordinary skill in the art to

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determine the value of the work item and select the best combines business and work item value to the job. One would be motivated to do this, as this allows the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

As per claim 35, Walker et al. disclose an arrangement for selecting a resource for a work item, comprising:

An effector of determining available work items that need skills possessed by the resource (see column 4, lines 8-12, the work item, or job, may require a resource, or technician, to have a particular skill); and

An effector of determining, for each of the determined work items, a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill (see column 7, lines 11-24, every resource contains a skill level and is weighted according to this skill level when combined with a work item.

Walker does not explicitly disclose an effector of determining, for each of the determined work items, a work item treatment value comprising a sum across all work item treatments of a product of the value of the work item for the work item treatment and a weight of the a work item forth a work item treatment; and an effector of selecting a determined work item that has a best combined score of its business value and work item treatment value, to be served by the resource. However, it is common in the art that the value to the work item being serviced by the resource is highest when the most qualified resource is assigned to the work item. For example, a task that needs a

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plumber would place the highest value on the expertise of the resource, or technician, assigned to fixed the plumbing. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to determine a work item treatment value comprising a sum across all work item treatments and select a determined work item that has a best combined score to be served by the resource as this allows the most skilled resource to work on the most difficult, or technically challenging, work item, or job.

### **Response to Arguments**

7. Applicant's arguments with respect to claims 1-26 have been considered, but are moot in view of the new grounds of rejection.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Crockett et al. (P.N. 6,044,355) discusses a method for scheduling personnel based on skills.

Narimatsu et al. (P.N. 5,826,236) discloses a scheduling system that optimizes the match between processes and resources based on attributes and start and end times.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Rebecca Bachner** whose telephone number is 703-

305-1872. The examiner can normally be reached on Monday - Friday from 8:30am to 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Tariq Hafiz** can be reached on **(703)305-9643**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 308-1113**.

Any response to this action should be mailed to:

**Commissioner of Patents and Trademarks**  
**Washington D.C. 20231**

or faxed to:

**(703) 305-7687**      Official communications; including After Final  
communications labeled "Box AF"

**(703) 746-7306**      Informal/Draft communications, labeled "PROPOSED" or "  
DRAFT"

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7<sup>th</sup> floor receptionist.

*RMB*  
RMB  
July 10, 2002

  
**TARIQ R. HAFIZ**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 3600**